

Advanced Java Programming

Week 1 Topic Outline

Introduction to Objects

1. A world of objects
2. States and behaviors
3. Simple object definition (instance variables and methods)
4. Object instantiation and usage (dot operator)
5. Object references / pointers
6. Constructors
 - a. single constructor
 - b. multiple constructors
7. Field shadowing
 - a. shadowing
 - b. `this` keyword
 - c. invoking other constructors
8. Default values for uninitialized fields
9. Default constructor
10. `null` pointers and `NullPointerException`s

Encapsulation

1. Clients of our classes
2. Reasons for limiting access: maintainability (sanity)
 - a. Limit access of others
 - b. Limit your own access (protect you from yourself)
3. Protection in methods
4. Need for `private` variables
5. Accessors and Mutators (Getters and Setters)
6. Exposing an "interface"

Class Variables

1. Class members
2. Static keyword
3. Understanding `public static void main(String[] args)`

